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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/694,696	10/28/2003	Kyu-Wook Han	SAM-0512	3675

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Anthony P. Onello, Jr.
MILLS & ONELLO LLP
Suite 605
Eleven Beacon Street
Boston, MA 02108

EXAMINER	
FRANKLIN, RICHARD B	

ART UNIT	PAPER NUMBER
2181	

DATE MAILED: 07/18/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/694,696	HAN, KYU-WOOK	
	Examiner	Art Unit	
	Richard Franklin	2181	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address. --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 May 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3-8,10-15,17 and 19-25* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3-8,11-15,17 and 19-25* is/are rejected.

7)☒ Claim(s) *10* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

FRITZ FLEMING
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100
7/13/2006

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1, 3 – 8, 10 – 15, 17, and 19 – 25 have been examined.

Response to Arguments

2. Applicant's arguments filed 15 May 2006 have been fully considered but they are not persuasive.

3. As per Applicants arguments to the rejection of claims 1, 7, and 15, Applicant submits that the relied upon references, US Patent No. 6,981,054 (hereinafter Krishna) and US Patent Application Publication No. 2002/0136163 (hereinafter Kawakami), do not teach all of the limitations of the currently amended claims. The Examiner respectfully disagrees. Krishna teaches determining the priority data of packets received by ports by determining whether the priority data are designated to the one of the plurality of ports at which the packet is received or whether the priority data are designated to the packet (Krishna; Col 5 Lines 38 – 44). Krishna teaches determining a port priority, where the priority data is designated to the one of the plurality of ports (Krishna; Figure 2 Item 40, Figure 3 Item 62, Col 5 Lines 38 – 44). Since the priority data is not designated to the packet, the claim does not require determining whether the packet is a VLAN packet or an IP packet. However, Krishna does teach determining the type of packet. Krishna teaches a switching fabric (Krishna; Figure 1 Item 25) that allows for layer 2 (Ethernet) and layer 3 (Internet Protocol) switching (Krishna; Col 3 Line 59 – Col 4 Line 23). Packet switching is based on policies such as "having been determined to belong to a prescribed flow" (Krishna; Col 4 Line 1). This suggests that

the switching fabric of Krishna determines the types of the packets flowing through it. Krishna also teaches determining a priority by reading priority field data of the packet (Krishna; Col 3 Lines 37 – 41, Col 4 Lines 47 – 53). Krishna teaches reading the priority from a user-selected attribute of the data frame (Krishna; Col 3 Lines 37 – 41). This attribute is obviously the priority field of the packet. Kawakami also teaches measuring bandwidth of data ports (Kawakami; Figures 18 and 19, Paragraphs [0194] – [0202]). Therefore, all the limitations of the independent claims are taught by the relied upon references.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1 and 3 – 5 are rejected under 35 U.S.C. 102(e) as being anticipated by US Patent No. 6,981,054 (hereinafter Krishna).

As per claim 1, Krishna teaches determining priority data of a packet received by one of a plurality of ports (Col 3 Lines 37 – 41), wherein the priority data is determined by determining whether the priority data are designated to the one of the plurality of ports at which the packet is received or whether the priority data are designated to the

packet (Col 5 Lines 38 – 44); determining whether the packet is a VLAN packet or an IP packet (Col 3 Line 59 – Col 4 Line 23); and determining a priority by reading priority field data of the VLAN packet or the IP packet (Col 3 Lines 37 – 41); determining whether an address pointer of a packet memory exceeds a predetermined limit value by monitoring the packet memory (Col 5 Lines 18 – 22); selecting at least one of the plurality of ports to control packet flow by using the priority data when the address pointer of the packet memory exceeds the predetermined limit value (Col 4 Lines 24 – 29, Col 5 Lines 48 – 58); and directing the selected at least one port to control packet flow (Col 5 Lines 48 – 58).

As per claim 3, Krishna also teaches wherein priority is determined as a high priority when the priority of the packet is over a critical value and the priority is determined as low when the priority of the packet is under a predetermined critical value (Figure 2 Item 40).

As per claim 4, Krishna also teaches selecting all ports having a low priority when the address pointer exceeds a first limit value (Figure 2 Item 42 [T1]) and selecting all the ports when the address pointer exceeds a third limit (Figure 2 Item 42 [T3]) value that is higher than the first limit value (Col 5 Line 45 – Col 6 Line 5).

As per claim 5, Krishna also teaches selecting a subset of ports having a low priority when the address pointer exceeds a first limit value (Figure 2 Item 42 [T1]);

selecting all ports having the low priority and a subset of ports having a high priority when the address pointer exceeds a second limit value that is higher than the first limit value (Figure 2 Item 42 [T2]); and selecting all ports when the address pointer exceeds a third limit value that is higher than the second limit value (Figure 2 Item 42 [T3], Col 5 Line 45 – Col 6 Line 5).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No. 6,981,054 (hereinafter Krishna).

As per claim 6, Krishna teaches selecting a subset of ports having the low or high priority (Krishna; Col 5 Line 45 – Col 6 Line 5).

Krishna does not teach wherein the selection method is a round robin method.

However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used a round robin method in the selection of the ports because round robin selection methods are well known in the art as a common method used to give each item, in a set of items, time to operate.

6. Claims 7 – 8, 11 – 15, 17, 19 – 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No. 6,981,054 (hereinafter Krishna) in view of US Patent Application Publication No. 2002/0136163 (hereinafter Kawakami).

As per claims 7 and 15, Krishna teaches determining priority data of a packet received by one of a plurality of ports (Krishna; Col 3 Lines 37 – 41), wherein the priority data are determined by determining whether the priority data are designated to the one of the plurality of ports at which the packet is received or whether the priority data are designated to the packet (Col 5 Lines 38 – 44); determining whether the packet is a VLAN packet or an IP packet when the priority data is designated to the packet (Col 4 Lines 3 – 10); and determining a priority by reading a priority field of the VLAN packet or the IP packet (Col 3 Lines 37 – 41); determining whether an address pointer of a packet memory exceeds a predetermined limit value by monitoring the packet memory (Krishna; Col 5 Lines 18 – 22); selecting at least one port of the plurality of ports to control packet flow by using the priority data when the address pointer of the packet memory exceeds the predetermined limit value (Krishna; Col 4 Lines 24 – 29, Col 5 Lines 48 – 58); and directing the selected at least one port to control the packet flow (Krishna; Col 5 Lines 48 – 58).

Krishna does not teach measuring bandwidth data of each port and outputting state data of each port by using the bandwidth data.

However, Kawakami teaches measuring bandwidth data of each port and outputting the state of the port by using the bandwidth data (Kawakami; Figures 18 and 19, Paragraphs [0194] – [0202]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the teachings of Krishna to include measuring bandwidth data of each port and outputting the state of the port by using the bandwidth data because doing so allows for each port congestion to be judged separately (Kawakami; Paragraph [0194]).

As per claim 8, Kawakami also teaches counting the number of packets received by the one of the plurality of ports at which the packet is received (Kawakami; Figure 18 [Rate count], Paragraph [0194]); calculating an average bandwidth by dividing the number of packets by a predetermined time period (Kawakami; Figure 18 [Total rate]); and outputting a first signal when the average bandwidth exceeds a predetermined critical value and a second signal when the average bandwidth does not exceed the predetermined critical value (Kawakami; Paragraph [0202]).

As per claims 11 – 12 and 22 – 23, Krishna discloses a port filter (Krishna; Figure 1 Item 24) for performing the logic function of comparing attributes and outputting a port state signal (Krishna; Col 3 Lines 37 – 41).

Krishna does not explicitly specify using logic gates (AND / OR) for performing the digital logic function of the port filter.

However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize and equivalent digital logic in order to carry out the

intended function of the port filter due to the design simplicity and stability of the logic circuit since digital or binary logic is the basic idea of computer operation.

As per claims 13, 20, and 24, Krishna also teaches selecting all ports having a low priority when the address pointer exceeds a first limit value (Figure 2 Item 42 [T1]) and selecting all the ports when the address pointer exceeds a third limit (Figure 2 Item 42 [T3]) value that is higher than the first limit value (Col 5 Line 45 – Col 6 Line 5).

As per claims 14, 21, and 25, Krishna also teaches selecting a subset of ports having a low priority when the address pointer exceeds a first limit value (Krishna; Figure 2 Item 42 [T1]); selecting all ports having the low priority and a subset of ports having a high priority when the address pointer exceeds a second limit value that is higher than the first limit value (Krishna; Figure 2 Item 42 [T2]); and selecting all ports when the address pointer exceeds a third limit value that is higher than the second limit value (Krishna; Figure 2 Item 42 [T3], Col 5 Line 45 – Col 6 Line 5).

As per claim 17, Kawakami also teaches counting the number of packets received by a port (Kawakami; Figure 18 [Rate count], Paragraph [0194]); calculating an average bandwidth by dividing the counted number by a predetermined time period (Kawakami; Figure 18 [Total rate], Paragraph [0196]); and determining whether the average bandwidth exceeds a predetermined critical value (Paragraph [0202]).

As per claim 19, Krishna also teaches detecting whether the address pointer exceeds the limit value (Krishna; Col 5 Lines 48 – 58); directing the port in a predetermined state to control the packet flow when the address pointer exceeds the limit value (Krishna; Col 5 Lines 14 – 22); determining the state of the port by receiving output signal of the bandwidth control section and the priority outputting section (Krishna; Col 5 Lines 38 – 44); and selecting the port in a predetermined state according to the data output by the port state determining section and transmitting a flow control signal to the port control unit of the selected port in response to a flow control direction of the flow control directing section (Krishna; Col 5 Lines 14 – 22).

Allowable Subject Matter

7. Claim 10 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. The following is a statement of reasons for the indication of allowable subject matter:

Claim 10 is allowable because the prior art of record fails to teach or suggest alone or in combination outputting a first signal when the priority is designated to the one of the plurality of ports at which the packet is received and a second signal when the priority is not designated to the one of the plurality of ports at which the packet is received; and outputting a third signal when the priority of the VLAN packet or the IP packet is over a predetermined critical value and a fourth signal when the priority of the

VLAN packet or the IP packet is under the predetermined critical value in the case where the priority is designated to the VLAN packet or the IP packet, as required by dependent claim 10, ***in combination with other recited claim limitations*** (emphasis added). Previously cited US Patent No. 6,981,054 (hereinafter Krishna) teaches outputting a first signal when the priority of the packet is over a critical value and a second signal when the priority is under a critical value (Krishna; Col 5 Lines 29 – 44), but is silent on outputting a first signal when the priority is designated to the one of the plurality of ports at which the packet is received and a second signal when the priority is not designated to the one of the plurality of ports at which the packet is received.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard Franklin whose telephone number is (571) 272-0669. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Fritz Fleming can be reached on (571) 272-4145. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Richard Franklin
Patent Examiner
Art Unit 2181

FRITZ FLEMING
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100
7/13/2006